

WHAT IS CLAIMED IS:

1. A communications system for transmitting voice data packets from a source system to a destination system over an IP packet-switched data network using a specified communications protocol, said system comprising:

5 a source interface device adapted to receive voice data packets, of a specified format, from the source system and to reformat voice data packets to a format compatible with the specified communications protocol; and

10 a source gateway adapted to receive the reformatted voice data packets from the source interface device and to route the reformatted voice data packets over the IP packet-switched network to a destination gateway;

wherein the destination gateway is adapted to route the reformatted voice data packet to a destination interface device adapted to reformat the reformatted voice data packets to the specified format and to output the re-reformatted voice data packets to the destination system.

2. The system of claim 1 wherein the IP packet-switched data network comprises any one of the public Internet and private data networks using any one of Frame Relay, ATM, Ethernet, Gigabit Ethernet and DSL as a transport technology and the specified communication protocol is TCP/IP.

3. The system of claim 1 wherein the specified format comprises any one of GSM, CDMA, TDMA, FDMA, AMPS and D-AMPS.

4. The system of claim 1 wherein the source system comprises:

a wireless source telephone adapted to convert voice signals to voice data packets in the specified format, the data packets including data indicating a call type; and

5 a source switching device adapted to receive the voice data packets, to recognize the call type, and to forward the voice data packets to the destination interface device only for a specified call type.

5. The system of claim 4 wherein the call types comprise local calls and long distance calls and the specified call type is a long distance call.

6. The system of claim 4 wherein the source system further comprises a source transceiver/base station for transmitting the voice data packets from the wireless source telephone to the source switching device.

7. The system of claim 1 wherein the destination system comprises:  
a wireless destination telephone;  
a destination switching device adapted to receive the re-reformatted voice data packets from the destination interface device; and

5 a destination transceiver/base station adapted to receive the re-reformatted voice data packets from the destination switching device and to transmit the re-reformatted voice data packets to the wireless destination telephone.

8. A method of transmitting voice data packets from a source system to a destination system over an IP packet-switched data network using a specified communications protocol, said method comprising:

5 reformatting voice data packets, of a specified format, received from the source system to a format compatible with the specified communications protocol;

routing the reformatted voice data packets over the IP packet-switched network to a point near the destination system;

reformatting the reformatted voice data packets to the specified format and

routing the re-reformatted voice data packets to the destination system.

9. A communications system for transmitting voice data from a source system to a destination system over an IP packet-switched network having a specified communications protocol, said system comprising:

5 a source gateway adapted to receive the voice data from the source system, to convert the voice data into voice data packets compatible with the specified communications protocol and to route the voice data packets over the IP packet-switched network; and

a destination gateway adapted to receive the voice data packets from the source gateway over the IP packet-switched network, to convert the voice data packets into voice data and to route the voice data to the destination system.

10. The system of claim 9 wherein the source system comprises:

a source circuit-switched data network;

a wireless source telephone adapted to convert voice signals to voice data packets, of a specified format, the voice data packets including data indicating a call type; and

5 a source switching device adapted to receive the voice data packets from the wireless source telephone, to convert the voice data packets to a circuit-switched format compatible with the circuit-switched data network;

wherein the circuit-switched data network is adapted to recognize the call type and to route the voice data to the source gateway only for a specified call type.

11. The system of claim 10 wherein the call types comprise local calls and long distance calls and the specified call type is a long distance call.

12. The system of claim 10 wherein the source system further comprises a source transceiver/base station for transmitting the voice data packets from the wireless source telephone to the source switching device.

13. The system of claim 1 wherein the destination system comprises:

a wireless destination telephone; and

a destination circuit-switched data network adapted to receive the voice data from the destination gateway and to route the voice data to a destination switching device;

5 wherein the destination switching device is adapted to reformat the voice data into the specified voice data packet format.

14. The system of claim 14 wherein the destination system further comprises a destination transceiver/base station adapted to receive the reformatted voice data packets from the destination switching device and to transmit the reformatted voice data packets to the wireless destination telephone.